PSEUDOTSUGA MENZIESII - ARBUTUS MENZIESII / HOLODISCUS DISCOLOR - LONICERA HISPIDULA

Douglas-fir - Pacific madrone / oceanspray - hairy honeysuckle

Abbreviated Name: PSME-ARME/HODI-LOHI

Sample size = 31 plots

DISTRIBUTION: Occurs primarily in the Olympic Mountains rainshadow, including San Juan and portions of Clallam, Jefferson, Island, Skagit, and Whatcom counties. Also occurs in King and southeastern Thurston counties and in southwestern BC.

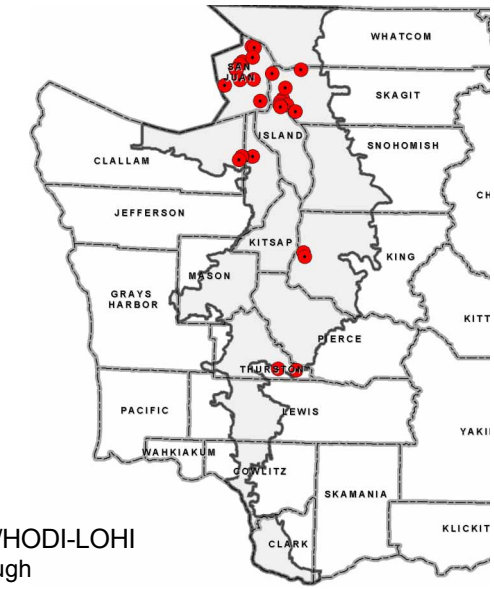
GLOBAL/STATE STATUS: G2G3S2. There are estimated to be no more than 25 relatively high quality occurrences (13 currently known). Most examples are small, or degraded by development, logging, or non-native plant species. Development, non-native species, and fungal diseases are threats.

ID TIPS: Dominated or co-dominated by Pacific madrone. Understory dominated or co-dominated by oceanspray, hairy honeysuckle, common snowberry, and/or western fescue. Salal always <10% cover.

ENVIRONMENT: These sites are typically very dry and appear to be poor to medium in relative nutrient status. Includes some of the driest sites that support forest in the ecoregion. Most frequent on sunny slopes adjacent to saltwater. Occurs most frequently on soils that are shallow to bedrock (outcrops often visible on plot), but also on glacial till, glacial outwash, and glacial drift sands. Usually found on moderate to steep slopes, especially southwestern aspects. More frequent in dry climatic areas (Olympic Mountains rainshadow).
Precipitation: 21-52 inches (mean 31)
Elevation: 20-900 feet
Aspect/slope: E to WNW/ 0-88% slope (mean 45)
Slope position: all except bottoms
Soil series: Rock outcrop, Fidalgo, Hoypus, Rockland, Clallam, dystric xerorthents, Guemes, lithic haploxerolls, lithic xerochrepts, Rainier, rough stony land

Vegetation Composition Table (selected species):
Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found.

Trees	Kartesz 2003 Name	Con	Cov
Pacific madrone	Arbutus menziesii	100	52
Douglas-fir	Pseudotsuga menziesii var. menziesii	94	48
western redcedar	Thuja plicata	10	6
Rocky Mountain juniper	Juniperus scopulorum	10	2
Shrubs, Subshrubs			
oceanspray	Holodiscus discolor	90	18
hairy honeysuckle	Lonicera hispidula	87	11
baldhip rose	Rosa gymnocarpa	81	9
common snowberry	Symphoricarpos albus var. laevigatus	74	16
tall Oregongrape	Mahonia aquifolium	68	4
orange honeysuckle	Lonicera ciliosa	58	3
trailing blackberry	Rubus ursinus var. macropetalus	55	4
salal	Gaultheria shallon	48	8
serviceberry	Amelanchier alnifolia	48	3
dwarf Oregongrape	Mahonia nervosa	39	11
Graminoids			
western fescue	Festuca occidentalis	68	9
blue wildrye	Elymus glaucus	61	4
Columbia brome	Bromus vulgaris	48	3
Alaska oniongrass	Melica subulata	35	5
Forbs and Ferns			
sword fern	Polystichum munitum	52	1
cleavers	Galium aparine	42	1
Nuttall's peavine	Lathyrus nevadensis ssp. lanceolatus var. pilosellus	35	3
western starflower	Trientalis borealis ssp. latifolia	35	2
woods strawberry	Fragaria vesca ssp. bracteata	32	2
small-flowered alumroot	Heuchera micrantha var. diversifolia	32	+
rattlesnake-plantain	Goodyera oblongifolia	29	2
broad-leaved stonecrop	Sedum spathulifolium ssp. spathulifolium	26	2
American vetch	Vicia americana ssp. americana	26	1
yerba buena	Cinopodium douglasii	16	5
harsh paintbrush	Castilleja hispida ssp. hispida	16	+



Plot locations of PSME-ARME/HODI-LOHI in the Puget Trough

Douglas-fir - Pacific madrone / oceanspray - hairy honeysuckle

DISTURBANCE/SUCCESSION: In the pre-settlement landscape, a moderate-severity fire regime likely prevailed (variable severity, intermediate frequency). Madrone resprouts after fire or cutting, and is capable of living for a few hundred years. Madrone dominance, and Douglas-fir subordinance or even absence, is favored by repeated high-severity fires, clearcut logging followed by natural regeneration, or selective logging of Douglas-fir. Douglas-fir is likely to increase in abundance without disturbance, but does not appear to be excluding or out-competing madrone on these dry sites, even when madrone is overtopped. Fungal diseases (*Natrassia* canker, *Fusicoccum* branch dieback), which may be non-native, appear to be facilitating at least local decline in madrone. Heavy deer browsing on some islands results in dominance by grasses, especially western fescue.

VEGETATION: Forest, or less commonly woodland, dominated or co-dominated by Pacific madrone, typically with Douglas-fir co-dominant. Madrone often forms a subcanopy below taller Douglas-fir. The understory is a somewhat variable mixture of deciduous shrubs and herbs. Oceanspray, hairy honeysuckle, and common snowberry are usually present and often prominent to co-dominant. Baldhip rose and western fescue are usually prominent. The latter may dominate in heavily browsed stands. Dwarf Oregongrape is present in less than half the stands, but when present is prominent to co-dominant. Tall Oregongrape, orange honeysuckle, and blue wildrye are also frequent. Several forbs may be present but usually not in very large amounts.

CLASSIFICATION NOTES: Roemer (1972) described this association from BC and called it ARME-PSME. Chappell (1997) and Chappell and Giglio (1999) described this type and called it PSME-ARME/LOHI. Fonda and Bernardi (1976) describe a similar community type called PSME-ARME/VIAM (*Vicia americana*) from Sucia Island. Herein, PSME-ARME/VIAM is considered a local variant of PSME-ARME/HODI-LOHI. NatureServe (2004) calls this type PSME-ARME/VIAM after Fonda's name.

MANAGEMENT NOTES: Experimentation with prescribed fire may be warranted, especially where fungal diseases are resulting in madrone decline. More research on management strategies focused on the diseases is recommended.

BIODIVERSITY NOTES: The fruit of madrone is highly sought-after by birds in the fall and early winter. State candidate yerba de selva (*Whipplea modesta*) has been recorded in this plant association.